REMARKS

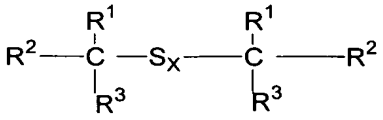
Applicants have canceled Claims 1-3 without prejudice or disclaimer and have amended Claims 4-6, 8 and 9. Support for the amendment can be found generally throughout the Specification and Examples, specifically at page 3, line 13 and Applicants respectfully submit that no new matter has been added.

I. Rejection under 35 U.S.C. §102(b)/013(a)

Claims 1-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by or in the alternative, under 35 U.S.C. § 103(a) as obvious over any one of Scholl, et al. (U.S. Patent No. 5,130,363) or Trivette, et al. (U.S. Patent No. 3,354,131) or Abele, et al. "Neue Erkenntnisse auf dem Gebiet der chemish beschleunitgten Mastikation"

Applicants respectfully traverse these grounds of rejection.

Claims 1-3 have been canceled without prejudice or disclaimer. Amended Claim 4 is directed to a process for preparing a masticated rubber mixture comprising the steps of adding a masticating agent comprising a dialkyl polysulfide to a rubber mixture, then mixing the masticated rubber with rubber chemicals and/or fillers and then optionally adding vulcanization agents to the rubber mixture, wherein said dialkyl polysulfide is a polysulfide of the formula



wherein R^1 to R^3 are identical or different and represent a linear or branched C_1-C_{18}-alkyl radical or represent hydrogen and x represents the numbers 3 to 5. Claims 5-11 are dependent upon Claim 4.

Applicants submit that in order to anticipate a claim the prior art reference must teach each and every element of the claimed invention, either expressly or inherently. Also, Applicants respectfully submit that "in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the

reference. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claims limitations. The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure." See MPEP § 2142, citing In re Vaeck, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991).

Applicants submit that Scholl, et al. fails to teach or suggest each and every element of the claimed invention and that Scholl, et al. fails to provide any suggestion or motivation, to arrive at the claimed invention. Scholl, et al. teaches rubber vulcanizates, which are produced using carboxylic oligosulfides. According to Scholl, et al. the rubber vulcanizate has improved hysteresis (dynamic) properties. As illustrated in Tables 1, 2 and 3 of Scholl, et al. the addition of the carboxylated oligosulfides to the rubber mixture caused a decrease or lower Tan δ compared to the control data. Therefore, it appears as though the carboxylated oligosulfides disclosed in Scholl, et al. were acting as crosslinkers or crosslinking activators.

Applicants also submit that if the disclosed carboxylated oligosulfides were acting as masticating agents there would be an increase in the Tan δ of the rubber mixture, not a decrease.

Accordingly, Applicants submit that one skilled in the art would not be motivated to use the disclosed carboxylated oligosulfides as masticating agents. Further, Applicants submit that it was surprising that the dialkyl polysulfides claimed can be used as masticating agents, since it was assumed that the dialkyl polysulfides would function as sulfur donors in the known manner, which in turn should lead to crosslinking of the rubber and an increase in molecular weight. Therefore, Applicants respectfully submit that Scholl, et al. provides no motivation to arrive at the claimed invention and request the present rejection be withdrawn.

Applicants submit that Trivette, et al. fails to teach or suggest each and every element of the claimed invention and that Trivette, et al. fails to provide any suggestion or motivation, to arrive at the claimed invention. Trivette, et al. discloses that the prevulcanization of rubbers containing sulfur vulcanizing agents and accelerators can be inhibited by incorporating a polysulfide into the sulfur vulcanizable rubber mixture. As disclosed in the Examples, the addition of the

polysulfide inhibited prevulcanization of the rubber mixtures. Trivette, et al. does not teach or suggest adding a dialkyl polysulfide to a rubber mixture as a masticating agent. Nor, does Trivette, et al. motivate one skilled in the art to added a dialkyl polysulfide to a rubber mixture to act as a masticating agent. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

Applicants submit that Abele, et al. fails to teach or suggest each and every element of the claimed invention and that Abele, et al. fails to provide any suggestion or motivation, to arrive at the claimed invention. Abele, et al. discloses using **disulfides** as masticating agents. Abele, et al. does not teach or suggest using polysulfides (i.e. x is 3-5) as masticating agents. Further, Applicants submit that Abele, et al. provides no motivation to use polysulfides as masticating agents. And as illustrated in Example 5 and Table 2 of the present invention, better mastication action occurs by combination of polysulfide mastication agent with compound A in a high dosage than with the Renacit® 11 (disulfide). Accordingly, Applicants respectfully submit that Albele, et al. does not teach or suggest the present invention, or provide any motivation to one skilled in the art to use polysulfides as masticating agents. Therefore, Applicants respectfully request withdrawal of this ground of rejection.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

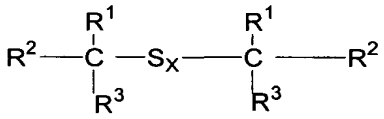
In the Claims:

Kindly amend the Claims as follows:

Please cancel Claims 1-3 without prejudice or disclaimer.

4. (Amended) A process for preparing a masticated rubber mixture comprising the steps of adding a masticating agent comprising a dialkyl polysulfide to a rubber mixture, then mixing the masticated rubber with rubber chemicals and/or fillers and then optionally adding vulcanizing agents to the masticated rubber mixture, ~~according to Claim 3,~~

wherein said dialkyl polysulfide ~~comprises the general~~ is a polysulfide of the formula



wherein

R^1 to R^3 are identical or different and represent a linear or branched C_1-C_{18}-alkyl radical or represent hydrogen and

x represents the numbers ~~3~~2 to 5.

5. (Amended) A process according to Claim ~~4~~3, wherein said dialkyl polysulfide ~~s comprise amounts~~ is used in amounts of 0.1 to 10 phr, based on the total amount of said rubbers to be masticated.

6. (Amended) A process according to Claim ~~4~~3, wherein said rubber~~s are~~ is selected from the group consisting of natural rubber (NR), styrene/butadiene copolymers (SBR), acrylonitrile/ butadiene copolymers (NBR), ethylene/propylene copolymers (EPDM) and fluorohydrocarbon rubbers.

8. (Amended) A process according to Claim 4~~3~~, wherein said dialkyl polysulfide ~~s are~~ is used in conjunction with metal-containing heterocyclic ring compounds.

9. (Amended) A process according to Claim 4~~3~~, wherein prior to mixing with said rubbers, said dialkyl polysulfides are absorbed onto a solid inert carrier.